Douglas McFadden

The Skutumpah Mammoth Excavation

In the New World, the disciplines of paleontology and archeology converge about 11,000 years ago when Pleistocene megafauna roamed the Colorado Plateau and Paleoindian hunters of the Clovis Tradition were killing and butchering mammoths and mastodons. Nearly all Clovis sites date to a narrow window of time between 11,200 and 10,900 years ago. After that period, the megafauna of the Colorado Plateau become extinct. Whether Clovis hunters caused the extinctions, or simply killed off the last of dwindling populations that were declining because of a changing climate, is a subject of considerable interest and debate.

In the fall of 1999, a Bureau of Land Management (BLM) range conservationist Rick Olyer was conducting vegetation studies on the Skutumpah Terrace in southcentral Utah, when he noticed a large bone eroding out of an arroyo cut. Olyer reported the find to a paleontologist who suspected it to be a leg bone of a proboscidean. The bone was confirmed as a probable mammoth by Dr. David Gillette, Colbert Curator Paleontologist of the Museum of Northern Arizona and later by Dr. Larry Agenbroad of Northern Arizona University.

The Skutumpah Terrace constitutes one of the "steps" of the Grand Staircase—a series of cliff lines and tablelands that extend from the Grand Canyon north into Utah that eventually reach an elevation of nearly 8,000 feet. The Skutumpah mammoth was located just below the highest cliff line at an elevation of 6,500 feet. Present day vegetation in this zone is pinyon and juniper. It is hoped that paleoecological studies will reveal what type of environment the mammoth lived in.

The remains of a femur and the ends of a few ribs lay exposed in a wash cut that appeared to have been filled with alluvium in the recent past (i.e. post-Pleistocene). Acting on this hunch, the author submitted a fragment of the femur for radiocarbon assay. A date of 11,390 +/- 40 BP allowed for the distinct possibility that the remains of the mammoth were the result of a Paleoindian kill rather than a natural death.

The location and sensitivity of the remains made immediate action necessary. Funds were allocated from the Utah State BLM Office and a cooperative agreement between the Museum of Northern Arizona and the Kanab Field Office was written that specified the roles of the museum personnel and those of the BLM.

Excavating the deeply buried remains of a mammoth is a labor intensive job. The BLM supplied a backhoe for the uppermost non-sensitive soil; the Museum brought rotating crews of high school students to assist with excavation of the more sensitive lower levels. The Flagstaff Arts and Leadership School, a charter institution located on the museum's campus, saw the excavation as an opportunity to experience "hands-on" science. Two rotating crews of four students and a teacher camped near the site for seven days. The students excavated, screened all the soil, and eventually participated in the plaster casting and removal of the bone. They will also assist in the museum laboratory by fine-screening a quantity of soil in the hopes of retrieving micro-refuse and eventually in the preparation of the bone.

The excavation strategy of trenching upstream and downstream eventually isolated the bone to a relatively small area. An excavation unit between the trenches exposed a quantity of bone in various states of preservation. Our best guess is that the animal died in the area and that additional bone occurs upslope. The museum and BLM personnel, with student help, will return in the spring to continue excavating.

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